

Turtle River Times

The Newsletter of the A.R.M. Loxahatchee National Wildlife Refuge

Issue 8
Oct/2004 - Apr/2005

"It's Hard to Reason With Hurricane Season"

by Mark Musaus, Project Leader

Feeder bands...cone of probability...safe room...possibly a category 4. Words we hope we don't hear again. Thankfully, words we can now use in the past tense. The good news is that the refuge made it through not one but two hurricanes. The bad news is that we did suffer damage. The chickee hut was destroyed and two storage buildings in our maintenance area suffered major damage. Lots of other buildings had minor damage such as roof leaks, gutters blown down, or aluminum siding blown off. We estimate 600,000 dollars in damages to the refuge, however our primary offices and visitor center are in tact and

This impacts the islands in two ways. First, these healthy trees that provide cover, structure, and habitat for wildlife have been lost and it will take years to replace. Secondly, openings have been created, exposing tree islands to invasion by exotic vegetation.



Look closely for one of the benches along the Cypress Boardwalk. Yes, the boardwalk really is there!



Chickee damaged beyond repair

fully operational.

Unfortunately, the resource was not spared either. Aerial surveys done shortly after Frances did not reveal significant damage, however, when staff traveled into the interior by airboat, they discovered tree islands had been impacted. Refuge biologists found a majority of tree islands in the north and center part of the refuge suffered damage. Trees were either snapped or blown over on the western sides of the tree islands.

The two hurricanes have most likely exacerbated two threats to the Everglades habitats in the refuge, invasive exotics and water quality. Our two biggest exotic problems on the refuge are melaleuca and Lygodium. One a tree, and the other a fern, both take advantage of the wind to spread their seeds or spores over a large area. We will have to monitor closely over the next couple

of years to see if the hurricanes promoted distribution and new growth of these exotics.

The two hurricanes, combined with significant rainfall events over the last few weeks, have taxed the water management capability in South Florida.

Hurricane Jeanne forced water managers (South Florida Water Management District and the Army Corps of Engineers) to utilize Storm Water Treatment Area (STA) 1E to store water. Recently constructed by the Corps along the northeast

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Visit the refuge often on the web at <http://loxahatchee.fws.gov/>

What's Happening in the Impoundments?

by SStefani Melvin, Refuge Biologist

Water levels in the impoundments were very low for most of the summer. The Refuge in general experienced a severe drought, with water levels lower than they had been since 1989. As a result of this lack of rainfall, water in the impoundments was evaporating about an inch per day. Low water conditions contributes to the overgrowth of plants that eventually need to be thinned for wildlife usage and viewing. However, low water also concentrates food for waterbirds and other animals.

During the summer, mottled ducks used C6, C7, and the LILA impoundments in rather large numbers. Many of the ducks were young of the year and probably hatched from nests located throughout the C compartment and LILA. Four black-bellied whistling ducks were observed using mudflats in C8. Shorebirds, such as black-necked stilts, killdeer, and greater yellowlegs also took advantage of low water by foraging in the exposed mudflats.

The plan for fall is to bring water levels up and hold the water high until late fall when the southern waterfowl and shorebird migration begins. During the period of high water, a cookie cutter (large boat with blades to cut vegetation) will be used to thin the vegetation and create areas of open water. These open water areas are valuable for foraging waterfowl, wading birds, and shorebirds. High water levels also give the fish and invertebrate populations a chance to recover from heavy predation. When water is shallow, aquatic organisms have fewer places to hide from predators. During this time, populations of these organisms become depleted. Deep water is necessary because it provides shelter and allows some of these organisms to escape predation so that they can reproduce.

included roseate spoonbills, glossy ibis, white ibis, wood storks, great blue herons, great egrets, snowy egrets, little blue herons, and tricolored herons. Wood storks were seen in groups of up to 80 individuals in C10, foraging on fishes that were more easily seen because of the open water. Alligators are also easily observed in C10 while the vegetation is short and sparse.

Another project includes the installation of culverts in the southern levees between C6, C7, C8, C9, and C10. These culverts were purchased with special funds allotted to the impoundments by Congress. The culverts will improve our ability to move water into the eastern C impoundments independent of the central canal. We will have greater flexibility with our water management which will improve habitat for birds. We are also planning to install some osprey nesting platforms in two of the eastern C compartments. Ospreys have been observed frequently foraging in the impoundments and a nesting pair would be a great addition.

Over the winter, we will be bringing water levels down in all of the C impoundments to provide foraging habitat for overwintering waterfowl and migratory shorebirds. Of course, our resident wading bird species will also benefit from this management strategy. Impoundments C7 and C9 will be drawn down as low as possible prior to May 1. This may require some pumping and could therefore temporarily impact visitor use of the Marsh Trail. Early in May, we will be conducting an aerial herbicide application to those two impoundments in preparation for prescribed burns in June. Vegetation in C7 and C9 will be browned and dead by the end of May, but look for great post-burn results during the summer. Pre and post-burn bird surveys will be conducted to evaluate the effectiveness of this management activity for improving bird habitat.

C-10 before the burn



Compartment C10 was burned during June, removing much of the unwanted vegetation and creating a large percentage of open water habitat. This impoundment should bring in a lot of waterfowl during the winter. During

July, wading birds were very abundant in C10, foraging in the newly opened up wetland. Species observed



Wading birds utilize C-10 after burn

Accessorized Alligators!

by Aletris Neils, University of Florida Graduate Student

An exciting new alligator study is being conducted at the Arthur R. Marshall Loxahatchee National Wildlife Refuge by the University of Florida and the United States Geological Survey. Graduate students Aletris Neils and Christopher Bugbee are testing new techniques for tracking alligators using two unique kinds of radio transmitters. Both transmitters are placed on top of the alligator's head and neck. The transmitters are 'glued' onto the gators; don't worry, this causes no harm to the animals. The first transmitter is designed to measure the amount of time an alligator actually spends underwater. The second kind of transmitter is equipped with a GPS unit that allows the alligator to be tracked without a biologist present. This transmitter records the exact location of the gator 24 hours a day. A large antenna has been mounted on the lookout tower to constantly pick up signals from the transmitters and record information to a receiver.

So far, two alligators have been equipped with these devices, and at least one more will be fitted soon. Eventually, dozens of alligators will be given transmitters so that their daily movements and habits can be recorded. And there is a good reason for it. The primary purpose of this research is to better understand alligator behavior as it relates to various environmental factors. Data collected will be applied to current alligator survey methods to make them more accurate and more reliable. Adjusted alligator surveys will be implemented in LNWR and in South Florida, so that biologists can more accurately monitor populations of these ancient animals. Hopefully this will help biologists figure out the answer to "just how many alligators are there in South Florida?"



The radio transmitters placed on the top of this alligator's head records important data on the amount of time it spends underwater.

Meet the Staff

Project Leader.... Mark Musaus

Deputy Project Leader.... Rolf Olson

Refuge Operation Specialist.... Mindy Gautreaux

Administration.... Kim Arserio, Jean Ryan

Everglades Program Team.... Nick Aumen, Matt Harwell, Leslie MacGregor, Jose Quinones, Michael Waldon

USFWS Ecological Services.... Cindy Brashear, Susan Teel

Law Enforcement.... William Calvert, Jared Klein

Wildlife and Habitat Management.... Bruce Arrington, Laura Brandt, Camille Darby, Jennifer Hinckley, Gayle Martin, Stefani Melvin, Don Napier, George Pelt, William Thomas, Jr.

Maintenance Operations.... Manuel Garcia, Jerry Grist, Allan Hansen, Steve Matzkow

Environmental Education & Interpretation.... Lois Chapman, Krista Markwardt, Serena Rinker

Fee Staff.... Keith Boliek, Lew Hecker, Marie Pohl

LILA On-site Manager ... Eric Cline (SFWMD)



Aletris Neils secures an American alligator

*The smallest refuge is .60 acre
Mille Lacs NWR (Minnesota).
The largest is Arctic NWR (Alaska)
at 19.2 million acres.*

“Putting Faces to Names”

by Mindy Gautreaux, Refuge Operations Specialist

Susan Teel, Fish and Wildlife Biologist



On November 17, 2003, Susan Teel joined our Loxahatchee team where she will focus her efforts as Liaison to help coordinate and communicate Refuge issues and concerns to Comprehensive Everglades Restoration Plan (CERP) Project Delivery Teams and Ecological Services in Vero Beach. Her objective is to help inter-agency teams develop restoration alternatives that maximize benefits to the diversity of fish and wildlife inhabiting the refuge.

Susan was born and raised in Miami, Florida. She has a B.S. in Biology from Florida International University and a dual M.S. in Marine Biology and Coastal Zone Management. She was previously stationed in West Palm Beach serving FWS Ecological Services office as a Liaison to the Environmental Protection Agency (EPA).

Jose Quinones, Everglades Program Team Secretary

Jose became the new Secretary for the Everglades Program Team (EPT) office on April 14, 2004. He came to the FWS from the Florida Air Academy in



Melbourne, where he served as a Military Science Instructor and Tactical Officer. Before that Jose served 22 years in the U.S. Army as an Administrative Specialist. His administrative background will be a great asset to the Everglades Program Team and to the refuge.

Jose is originally from Puerto Rico, but he now resides in Melbourne, Florida. He is a husband, a father of three, and he has one granddaughter. Welcome aboard Jose!

Don Napier, Exotics Laborer

Don joined the refuge staff on August 23, 2004, as an addition to our exotic plant eradication team. He understands the refuge's exotic plant issues well as he worked previously for an environmental consulting organization specializing in wetlands management, and also for the University of West Florida as a technician doing apple snail research. Don is a trained welder and he has a wetlands management degree from Broward



Community College.

Don is married to Susan Teel, our refuge liaison for CERP issues. He grew up in Miami, but now resides in the Pembroke Pines area. Welcome aboard Don!

Hats Off !!

The Refuge would like to thank Lake Worth Drainage District employees Pat Martin, Dana Ackerman-White, and Bill Winters for working with refuge staff to resolve water issues before and after both Hurricane Frances and Jeanne.

A hearty thanks is also given to the South Florida Water Management District lab staff and particularly Maxine Cheesman, David Struve, and Glenn Perrone for their critical role in assisting the Refuge with important water quality projects over the past several years. The lab's continued willingness in taking on additional refuge project work has been admirable. They have provided consistent top quality service, and are always available for resource assistance.

A “Hats Off” to our resource partners!

LILA Update

by Eric Cline, SFWMD

The Loxahatchee Impoundment Landscape Assessment project (LILA), is a one-of-a-kind ecological restoration and assessment project located on the Refuge. The South Florida Water Management District (SFWMD) has partnered with the U.S. Fish and Wildlife Service as well as the Army Corps of Engineers to create a landscape-size replica of the Everglades. LILA is a tool that will help scientists, engineers and the general public better understand the effects of flowing water on the soil, plant and wildlife communities of the Everglades.



Partners in the LILA project

The first of many studies focusing on tree islands was initiated since the last newsletter. With the help of over thirty volunteers made up of staff from the SFWMD and the refuge, some 3,000 native trees were planted on the eight islands in LILA. This was a very time consuming and laborious effort as each tree had to be planted in a very specific location mapped out by the renowned tree island expert, Dr. Paul Wetzel. Over the course of one week, the trees were planted and placed inside a seedling protector to help protect them from the hungry marsh rabbits found throughout the refuge.



Tree planting on the 8 islands in LILA

We have many activities planned for the next few months at LILA, the foremost being the care of our trees, with the weather making this a challenge as we are several inches below average rainfall for this area. We are also

planning to continue testing LILA's water recirculation system with help from the University of South Florida. This testing will guide managers and scientists on the long-term operation of the system. Another study that investigates perching birds as seed dispersers will begin as migrants and winter residents move into our warm South Florida climate. We also hope to begin planting sawgrass on the ridges in LILA, a big task that will require lots of manpower and careful planning.

The LILA project continues to evolve as the capabilities of the system are explored. Managers and scientists associated with the project are amazed by the resiliency of the Everglades ecosystem. Succession continues in the sloughs as bladderwort out competes musk grass and we are finally seeing evidence of water lily sprouting from the cut rhizomes planted last spring. LILA is steadily making progress and as experimentation and assessment begins we hope to begin unlocking more of the Everglades mysteries.



Resting spot for perching birds



Bladderwort (tiny lighter green plants) begin to establish themselves in the LILA sloughs

Regular Activities and Events Descriptions

(see calendar for dates, places, & times)

Morning Bird Walks – This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

Sunset Birding – Late-day sightings may include night-herons and nightjars. Bring binocular, field guide, and insect repellent.

STA1-West Birding – An off-site escorted auto trip into a filtration marsh operated by the SFWMD. Approximately 3 hours. Bring binocular/scope, field guide, water/snack, sun/rain protection, insect repellent. Must be willing to car pool. **RESERVATION REQUIRED** Call 561-735-6030 and if no answer call 561-732-3684

“Canoeing the Everglades” – Take a two-hour journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. **RESERVATION REQUIRED** Call 561-735-6030 and if no answer call 561-732-3684

“All About Nature” Walks – Join a naturalist for a discovery tour of the plants and “critters” that call the refuge home.

Swamp Strolls – Enjoy the beauty of a cypress swamp from a half-mile long boardwalk trail. Learn about “swamp tea,” floating plants, and thigmotrophism as a naturalist reveals the swamp’s secrets to visitors.

Children’s Story & Craft Hour – Join a naturalist for a children’s story and craft session afterward. Open to children five to eight years old. Children must be accompanied by an adult. **RESERVATION REQUIRED** Call 561-735-6030 and if no answer call 561-732-3684

Night Prowl – Experience the refuge after dark. See and hear the creatures that come out after the sun sets. **RESERVATION REQUIRED** Call 561-735-6030 and if no answer call 561-732-3684

Special Programs

December, 2004

Burning the Refuge – Saturday, 11th, 2:00PM (VC) – Refuge Fire Specialist Jennifer Hinckley shows how fire is used as a management tool.

Photography Workshop – Sunday, 12th, 2:00PM – 5:00PM (VC) – Conducted by Nature Photographer John J. Lopinot, this program focuses on how judges select winning images and includes an explanation of the rules of the Refuge contest. Participants are encouraged to bring photos for critique. **RESERVATION REQUIRED** Call 561-735-6030 and if no answer call 561-732-3684

January, 2005

22nd Annual Photo Contest – Entries can be mailed or delivered in person to the refuge Visitor Center between January 15th and 30th, 2005. Information, contest rules, and entry forms will be available in the Visitor Center or on our web site at <http://loxahatchee.fws.gov>.

Ask The Staff – Friday, 14th, 2:00PM (VC) – Refuge Manager Mark Musaus and Senior Biologist Stefani Melvin will discuss refuge management, including what’s going on in the public viewing areas. The duo will also answer audience questions.

Wildlife Around Us – Friday, 21st, 1:30PM (VC) – Debbie Fritz-Quincy of the Hobe Sound Nature Center will give us a “live” look at some of Florida’s native animals.

Florida’s Gators & Crocs – Friday, 28th, 1:30PM (VC) – Hobe Sound Nature Center Naturalist Pete Quincy, will unlock the mysteries of these fascinating reptiles.

February, 2005

Everglade’s Day – Saturday, 12th, 8:00AM – 4:00PM – The day’s events include birding, family walks, hands-on activities, music, food, children’s activities, exhibits, and live programs. More info at 561-734-8303

Special Programs

Florida's Environmental History – Friday, 18th, 2:00PM (VC) – Everglades Program Team Ecologist, Dr. Matthew Harwell, presents a brief history of the interactions of humans and Florida's environment from Paleo-Indians to present day.

March, 2005

Ask The Staff – Thursday, 10th, 2:00PM (VC) – Refuge Manager Mark Musaus and Senior Biologist Stefani Melvin will discuss refuge management, including what's going on in the public viewing areas. The duo will also answer audience questions.

LILA Program & Tour – Saturday, 19th, 11:00AM, (VC) – A ten year research project (Loxahatchee Impoundment Landscape Assessment) on Everglade's Restoration is right here and accessible to the public. Join the on-site project leader for a program and a personalized tour of this one of a kind 68 acre laboratory.

Scat ID Workshop – Wednesday, 23rd, 2:00PM (VC) – Join Interpretive Specialist Serena Rinker as she shows that you don't have to see an animal or its tracks to know that it's been there.

Research – What's Up? – Thursday, 24th, 2:00PM (VC) – Senior Wildlife Biologist, Dr. Laura Brandt discusses research and monitoring on the refuge, findings, and plans for future studies.

April, 2005

Sea Turtles – Friday, 1st, 1:30PM (VC) – After years at sea, they come to land to continue the cycle of rebirth. Hobe Sound Refuge Manager Margo Stahl gives a glimpse of sea turtle life and the importance of the refuge to them.

Birding By Numbers – Friday, 8th, 2:00PM (VC) – Biologist Bruce Arrington talks about spring and fall bird migration counts and how birders can help.

Understanding Gators – Thursday, 14th, 2:00PM (VC) – Using a variety of survey methods, biologists are discovering more and more about these ancient reptiles. Find out about alligator research and monitoring on the refuge from Senior Wildlife Biologist Dr. Laura Brandt.

Flora, Fauna, and Fun ! Everglades Day Festival 2005

by Serena Rinker, Interpretive Specialist

Everglades Day Festival 2005 is coming. Yes, make sure you mark your calendars for Saturday, February 12, 2005 from 8:00 a.m. to 4:00 p.m. The Everglades Day Festival is the refuge's annual major event co-sponsored by the Audubon Society of the Everglades and the Friends of the Loxahatchee Refuge. The mission of this yearly event is "to promote an awareness and understanding of the significance of this fragile Everglades ecosystem to ALL South Floridians. This annual event uses science, art, music, and interactive programs to educate the public about the importance of this world-renowned water resource".

Each year this festival has a theme, and this year is no exception. This year's theme is FLORA, FAUNA, and FUN: Wildlife in the Everglades. The festival planning committee is busy planning another exciting event for the public. Exhibitors and speakers are being asked specifically because of their connection to wildlife. There will be many opportunities to learn about and view wildlife up close and personal. We are planning for a panel discussion of Everglades birds and some exciting guest speakers. Remember, this is a family, friendly, free event, so we will have something for everyone. See you there!



2004/2005 Loxahatchee Events Schedule: November - April

Events with an asterisk (*) Require RESERVATIONS - please call 561-735-6030 and if no answer call 561-732-3684

MT = Marsh Trail

HQBR = Headquarters Boat Ramp

VC = Visitor Center

Refuge Hours & Fees

The refuge is open to the public from sunrise to sunset daily. Exact times are posted at each entrance on our website and change with the hours of daylight. Currently the refuge opens at 6:00AM and closes at dusk.

Winter hours for the Visitor Center which begin on October 11 are Monday through Friday, 9:00AM to 4:00PM and Saturday and Sunday from 9:00AM to 4:30PM. The Visitor Center is closed on Thanksgiving and Christmas days, although the trails will remain open.

A fee of \$5.00 is charged to private vehicles entering the refuge. When the fee booth is unmanned, visitors are subject to the honor system and should pay at the fee shelter next to the fee booth. Various passes are available. Check at the Visitor Center or Fee Booth for details.

November 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7	8	9	10	11	12	13 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR) Butterflies & Wild- flowers Walk 10:00AM (VC)
14	15	16	17 Bird Walk 7:30AM (MT)	18	19	20 Bird Walk 7:30AM (MT) *STA1-West Birding 8:30AM
21 Nature Walk 11:00AM (MT) Sunset Birding 4:00PM (MT)	22	23	24 Bird Walk 7:30AM (MT)	25 Thanksgiving Day Visitor Center Closed All Trails Open	26	27 Bird Walk 7:30AM (MT)
28 Swamp Stroll 2:00PM (VC)	29	30				

2004/2005 Loxahatchee Events Schedule: November - April

December 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Bird Walk 7:30AM (MT)	2	3	4 Bird Walk 7:30AM (MT)
5 *Kid's Story & Craft 2:00PM (VC)	6	7	8 Bird Walk 7:30AM (MT)	9	10	11 Bird Walk 7:30AM (MT) Fire Program 2:00PM (VC)
12 *Photo Workshop 2:00PM (VC) Swamp Stroll 2:00PM (VC)	13	14	15 Bird Walk 7:30AM (MT)	16	17	18 Bird Walk 7:30AM (MT) *STAI-West Birding 8:30AM *Canoe Trip 8:00AM (HQBR)
19 Nature Walk 11:00AM (MT) Sunset Birding 4:00PM (MT)	20	21	22 Bird Walk 7:30AM (MT)	23	24	25 Christmas Day Visitor Center Closed All Trails Open
26	27	28	29 Bird Walk 7:30AM (MT)	30	31	

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January 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 Happy New Year Visitor Center & All Trails Open Bird Walk 7:30AM (MT)
2 Nature Walk 11:00AM (MT)	3	4	5 Bird Walk 7:30AM (MT) *Night Prowl 7:30PM (VC)	6	7	8 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR)
9 *Kid's Story & Craft 2:00PM (VC) Swamp Stroll 2:00PM (VC)	10	11	12 Bird Walk 7:30AM (MT)	13	14 Ask the Staff 2:00PM (VC)	15 Bird Walk 7:30AM (MT)
16 Sunset Birding 4:00PM (MT)	17	18	19 Bird Walk 7:30AM (MT)	20	21 Wildlife Program 1:30PM (VC)	22 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR)
23 Swamp Stroll 2:00PM (VC)	24	25	26 Bird Walk 7:30AM (MT)	27	28 Alligators & Crocs 1:30PM (VC)	29 Bird Walk 7:30AM (MT) *STA1-West Birding 8:30AM
30	31					

2004/2005 Loxahatchee Events Schedule: November - April

February 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 Bird Walk 7:30AM (MT)	3	4	5 Bird Walk 7:30AM (MT) *STA1-West Birding 8:30AM
6 Swamp Stroll 2:00PM (VC)	7	8	9 Bird Walk 7:30AM (MT)	10	11	12 Bird Walk 7:30AM (MT) Everglades Day (See Description)
13	14	15	16 Bird Walk 7:30AM (MT)	17	18 Fla Environmental History 2:00PM (VC)	19 Bird Walk 7:30AM (MT) *STA1-West Birding 8:30AM
20 *Kid's Craft & Story 2:00PM (VC) Swamp Stroll 2:00PM (VC)	21	22	23 Bird Walk 7:30AM (MT)	24	25	26 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR)
27 Nature Walk 11:00AM (MT) Sunset Birding 4:00PM (MT)	28					

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March 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 Bird Walk 7:30AM (MT) *Night Prowl 7:30PM (VC)	3	4	5 Bird Walk 7:30AM (MT)
6 Swamp Stroll 2:00PM (VC)	7	8	9 Bird Walk 7:30AM (MT)	10 Ask The Staff 2:00PM (VC)	11	12 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR) *STA1 - West Birding 8:30AM
13 Nature Walk 11:00AM (MT) Sunset Bird Walk 4:00PM (MT)	14	15	16 Bird Walk 7:30AM (MT)	17	18	19 Bird Walk 7:30AM (MT) *STA1 - West Birding 8:30AM LILA Prog & Tour 11:00AM (VC)
20 Swamp Stroll 2:00PM (VC)	21	22	23 Bird Walk 7:30AM (MT) Scat Program 2:00PM (VC)	24 Refuge Research 2:00PM (VC)	25	26 Bird Walk 7:30AM (MT) Butterflies & Wild- flowers Walk 10:00AM (VC)
27 Nature Walk 11:00AM (MT) *Kid's Story & Craft 2:00PM (VC)	28	29	30 Bird Walk 7:30AM (MT)	31		

2004/2005 Loxahatchee Events Schedule: November - April

April 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Sea Turtles 1:30PM (VC)	2 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR)
3 Swamp Stroll 2:00PM (VC) Sunset Birding 5:00PM (MT)	4	5	6 Bird Walk 7:30AM (MT)	7	8 Counting Birds 2:00PM (VC)	9 Bird Walk 7:30AM (MT) *STA1-West Birding 8:30AM
10	11	12	13 Bird Walk 7:30AM (MT)	14 Refuge Gators 2:00PM (VC)	15	16 Bird Walk 7:30AM (MT) *Canoe Trip 8:00AM (HQBR) *STA1-West Birding 8:30AM Butterflies & Wild- flowers Walk 10:00AM (VC)
17 Swamp Stroll 2:00PM (VC)	18	19	20 Bird Walk 7:30AM (MT)	21	22	23 Bird Walk 7:30AM (MT)

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Commisioner Burt Aaronson Kicks in \$25,000 for Fishing Pier

by Susanna Laurenti, The Arthur R. Marshall Foundation

Angling for fish will become easier at the Refuge thanks to the generosity of County Commissioner Burt Aaronson, a private grant, and donations from organizations and private individuals. The struggle to raise money for a fishing pier suddenly took on new life with Aaronson's pledge of \$25,000.

Beach, FL 33483. You can also go to their website at www.loxahatcheefriends.com/fishing2.htm.



New pier is to be built south of the existing handicap fishing platform pictured here

R e c e n t l y , Commissioner Aaronson, who represents portions of Boynton Beach, Delray Beach, and Boca Raton, pledged the money from his discretionary funds to help build a much-needed

fishing pier at the Refuge. Commissioner Aaronson's contribution has helped fill in the gap of funds needed to match a \$36,200 grant the Friends of the Arthur R. Marshall Loxahatchee National Wildlife Refuge (FLR) obtained from the National Fish and Wildlife Foundation to build a new fishing pier. To date, FLR has received funds from freshwater fishing interests, Friends members, and other charitable sources.

In the United States, anglers outnumber golfers nearly two to one, with Florida ranking number one in terms of numbers of adult anglers. The Refuge has an estimated 69,000 anglers yearly, of which thousands are bank fishers. The pier will offer easier access and safer fishing opportunities at the refuge Headquarters area.

Even with Commissioner Aaronson's generous contribution and the other contributions received thus far, FLR still needs to raise additional funds before construction can begin on the pier.

The pier, when built, will be elevated and will sit on the east bank of the L-40 canal adjacent to the boat launching ramps on Lee Road. Construction is expected to begin in the summer of 2005.

If you are interested in sending a contribution or wish further information, you can contact the Friends at: Friends of the Arthur R. Marshall Loxahatchee National Wildlife Refuge, P.O. Box 6777, Delray

Wildlife at Work

Photographic Exhibit to Grace Visitor Center Walls
October 1, 2004 through January 1, 2005

Nature Photographer George Forrest catches wildlife going about the business of survival in its native habitat. His images present an intimate portrait of animals in search of food, from Great blue herons eating baby alligators to adult alligators eating Great blue herons.

Please Join Us

• Membership Application •
Friends of the Arthur R. Marshall
Loxahatchee National Wildlife Refuge

- | | |
|---------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> Individual \$15.00 | <input type="checkbox"/> Student (to age 18) \$5.00 |
| <input type="checkbox"/> Family \$25.00 | <input type="checkbox"/> Supporting \$50 |
| <input type="checkbox"/> Organization \$100 | <input type="checkbox"/> Contribution _____ |

Please mail this form to:
Friends of the Loxahatchee Refuge
P.O. Box 6777
Delray Beach, FL. 33482-6777

Make checks payable to:
"Friends of the Loxahatchee Refuge"

If paying by credit card please indicate:

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For further information about the Friends of the Refuge please contact:

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10216 Lee Road
Boynton Beach, FL 33437-4796
(561) 734-8303 or (561) 732-3684

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portion of the refuge, the intent of this 5300 acre STA is to remove phosphorous from the water before it enters the refuge. The various impoundments were inundated before the vegetation used to consume the phosphorous had fully grown in. Since water levels were too high within the STA impoundments, some water had to be released untreated into the refuge.

On the northwest side of the refuge is STA-1W, which has been operating for many years treating water from the agricultural basins before entering the refuge. So much rain has fallen that the STA has been taxed beyond its treatment design and could not remove phosphorus as efficiently as before. In addition, untreated water has had to be rerouted directly into the refuge.

Too much phosphorous is a major water quality concern because it causes a shift in vegetation that grows in the Everglades. Plants such as cattails that thrive on phosphorous become dense and displace submerged aquatic plants, algae, and sawgrass that normally are found in the refuge. Refuge staff, other federal agencies like the National Park Service, U.S. Geological Survey, and the Corps of Engineers are working closely with SFWMD and DEP to address critical water quality concerns.

Natural disasters manage the landscape catastrophically, leaving short and long term impacts. Even though the Everglades evolved under a natural regime of hurricanes and other catastrophic weather events, human impacts may have decreased the Everglades' ability to bounce back from the effects.

Hurricanes certainly have a way of getting our attention and leave lasting impressions. They create huge disruptions in both the human and natural system. However, the refuge staff is committed to learning from and responding to these recent disasters. Our priority continues to be restoring and protecting the Everglades for wildlife but we also want the refuge to be a special place to visit.

Now for the words that I would prefer to focus upon...

butterflies..... cypress boardwalk..... wood stork...

Refuge !!

Looking for You

Volunteers sought for Refuge

Without our volunteers, we would have a difficult time providing services to the public. Volunteers also provide help to administrative, maintenance, and biology programs. Currently there are positions available for:

- volunteers with mechanic skills
- carpentry/cabinet making skills
- general ground maintenance skills



Volunteers building marsh trail benches

We are also looking for folks who are experienced naturalists or who have the desire to lead tours or roam our trails as roving interpreters.

If you are a current volunteer or would like to be one, contact Ranger Lois Chapman or Krista Markwardt at 561-735-6030 or e-mail Ranger Lois at lois_chapman@fws.gov.



Opportunities abound to help educate tomorrows leaders about our environment

Creature Feature... Black Necked Stilt

by Stefani Melvin, Refuge Biologist

The black-necked stilt (*Himantopus mexicanus*) is a handsome bird, unmistakable with its beautiful black and white plumage, long bill, and long pink legs. Common in wetlands throughout the southern United States, it is one of the year-round resident shorebird species that uses the A.R.M. Loxahatchee National Wildlife Refuge. This species nests on exposed surfaces such as mudflats or sandbars. The nest is a small



Adult Black-neck stilt

mound usually surrounded by water. Each mated pair lays 3-5 speckled eggs in a depression on the top of their mound. Both male and female stilts incubate the eggs for a period of 22-26 days. As soon as the downy young hatch, they are quite mobile. They can immediately run and swim using their wings. The parents remove the broken egg-shells from the nest immediately to deter predators. However, if the nest is threatened, the adults' alarm calls signal the young to hide and be very still. These downy youngsters can look very much like a stone or piece of decaying vegetation. The



Hatched stilt chick with eggs

adults will feign injury to lead predators away from their well concealed young. Within 24 hours after the final egg has hatched, the parents move the entire brood away from the nest site into vegetated habitat which provides cover and protection. The young stilts follow their parents' lead feeding on aquatic invertebrates and tadpoles. After about 28 days, the young birds fledge and are ready to head out on their own. The family unit stays together even after the young birds can fly, so it is common to see immature stilts in the company of the adults. The best time to see black-necked stilts in our impoundments are during the spring and summer.

Photography Workshop to Assist Aspiring Photo Contest Winners

Have you ever wanted to know what the judges are looking for in our annual photo contest? Have you had a photo that you thought might be good but were just a bit hesitant to enter? Do the photo contest rules and regulations confuse you? Would you like to have an expert critique your work? If you answered yes to any of these questions, then the December Photography Workshop is the program for you.



On Sunday, December 12, 2:00PM – 5:00PM, nature photographer, John J. Lopinot will be at the Refuge Visitor Center showing just what the judges in the photo contest are looking for when they select winning images. In addition to giving tips on shooting that special picture, John will also go over the rules of the contest and answer questions. Participants are encouraged to bring photos to the workshop for critique.



22nd Annual Photography Contest Rules & Regulations Available

Get the jump on the competition. You can go to our website to get our newest rules and regulations for the 22nd Annual Photo Contest or you can call our visitor center at 561-735-6030. Entries can be mailed or delivered in person to the refuge Visitor Center between January 15th and 30th, 2005.

Kids
Corner

Refuge Fun Facts - Alligators

by Chrissanna (gator) Srdoch - University of Florida

Kids
Corner

There are a lot of alligators at Loxahatchee. Have you seen any? While you're looking, read on to learn some cool facts about these fascinating reptiles.

How big do alligators get?

Most alligators don't get any larger than 13 feet and about 600 pounds. However, the longest wild alligator recorded was 18 feet, 2 inches. It was trapped early in the 1900's in Louisiana.

How long do alligators live?

In the wild, alligators usually live between 35-50 years, but in captivity they can live even longer than that. Did you know that alligators continue growing their entire lives?

Where do mother alligators lay their eggs?

The mother alligator will lay her eggs in a marshy area. She will use her whole body to make a mound of sticks and plants that she will put the eggs in. Unlike many other animals, she doesn't need to sit on her nest all the time because the material in the nest helps to keep the eggs warm.



This big mound is an alligator nest before the eggs start to hatch

How many eggs do alligators lay and when do they hatch?

Alligators lay about 20-50 eggs that begin to hatch during August and September. The babies will make high pitched grunts to alert the mother alligator they are hatching. She will then help the babies dig out of their nest.

How come the big alligators don't have stripes?

Baby alligators and some young adults have stripes. These help them to blend in



Alligators keep their stripes until they are 3-4 feet long

Baby alligators staying close to the nest

with the area around their nest. Most alligators will slowly lose their stripes as they grow to be between 3-4 feet in size.

How do I tell the difference between an alligator and a crocodile?

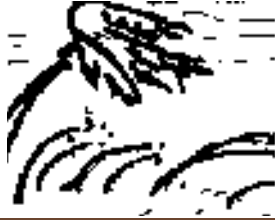
The easiest way to tell the difference between the two is probably to look at the snout. Is it wide and rounded? Then you're looking at an alligator. If the snout is narrow and pointed, then it's a crocodile.

See the pointed nose on the crocodile?***The alligator's nose is rounded***



Annie the
Anhinga

Kids Corner



Annie's Big Adventure

by Chrissanna (gator) Srdoch - University of Florida, Karl Miller - Florida Fish and Wildlife Commission, Peter Frederick - University of Florida, artwork by Frank Lohan

MERCY!! No sooner did Annie find her mommy and settle into their home after hurricane Irene when another hurricane threatened our refuge. Now Annie and her family have to huddle down against Hurricane Frances !!

Kids Corner

Hurricane!

"Children," Annie's mother, Abigail, exclaimed, "I have had enough! I know your wings are waterlogged and that you haven't been able to dry off. Neither have any of the other anhingas around here. Be thankful that the hurricane is over and we have a chance now to dry out our wings and warm up. Be thankful that we made it through the storm, just look around at how different everything looks now. We're going to be very busy for a while."

Annie sighed and took in a breath of warm fresh air. She couldn't help but think back to the last hurricane when she had been separated from her mother. At least this time she had been with her family. But this storm was different, this time Annie had known it was coming. Well, she had known something was odd and Abigail had told her a storm was coming. That's why she had been hearing those weird sounds a few days ago. "It's called infrasound," her mom had explained. "It's really low, so low that humans couldn't be able to hear it. But we can. It's caused by the wind and waves out in the ocean. There's a big hurricane out there. I wish we could just fly away from it, but there's no way for us to know where it will hit land, all I know is that it's coming."



This is the tree island where Annie lives. Do you see the trees that are missing leaves and branches?

All that seemed so long ago now as Annie looked around at the tree islands. So many of the trees were missing branches and leaves. And there was water everywhere. "Hey, wait just a minute," Annie squawked. "What's that funny bird doing here? I've never seen anything like it!"

"That's a bird from the ocean," her mother explained, "The winds from the hurricane probably blew it inland during the storm. Hurricanes are so strong that sometimes other birds get stuck in the winds and get blown to places they don't really live."

Annie thought about that for a minute. "I guess that makes sense," she decided as she saw Sam the songbird fly over to her mom.

"The next few weeks aren't going to be easy for us songbirds. No sir. Not with all the trees that have lost leaves and branches. How are we going to find places to perch and not be seen by other animals? And all of our homes! The storm broke off so many branches where we had nests. What will we do?" Annie gasped as she overheard her mom and Sam talking. Maybe this was worse than she had thought. They really did have bigger problems than just having cold, wet wings during the storm.

Annie waited until her mom and Sam were done talking before rushing over to her. "Mom!" Annie cried. "What are we going to do! How are we going to survive?"

"I don't know, Annie," Abigail soothed as she smoothed Annie's feathers, "I don't know. But I know that we will. We'll continue to catch fish and to rebuild our nests. The way everything looks around here may be different and it may be hard to camouflage with so many branches down, but we'll survive. We have each other."

Kids
Corner

Annie's Big Adventure

story by Chrissanna (gator) Srdock - University of Florida
artwork by Frank Lohan

Remember our little Annie? On that dark and stormy night during hurricane Irene, she was blown from her warm and cozy nest, AND HER MOMMY! Well ... Thank goodness ... she finally found her Mommy, now she will learn all about the refuge from Abigal and all of her new friends !!

Kids
Corner

Annie the
Anhinga

Annie Learns to Fish

"Hurry up," Annie's mother exclaimed. "Your brothers and sisters are excited about their first fishing lessons today, so you're all going to get to try on your own. "Remember, one day you will need to take care of yourself and perhaps feed your own family."

Soon, Annie found herself swimming around in the water along with her brother and sister. "All right children, watch closely as I catch a fish," her mother directed. Annie looked on surprised as her mother disappeared beneath the water and speared a fish on her beak. But the best part was when Abigail flipped the fish up in the air off of her beak and swallowed it. "Cool!! Do it again Mom," the young aningas pleaded.



Annie's mom catching a fish

"Sorry kids, now it's your turn," their mom stated with a look that only mom aningas can give.

"Here goes," Annie said with a sigh. She swam through the water like a snake. Spearing a fish in her beak wasn't that easy. "Mercy," Annie said in dismay as yet another fish got away from her. All that fishing was beginning to make Annie hungry, and she still didn't have a fish.

"Give it one more try," her mom coaxed.



Anhinga swimming through the water. Doesn't it look like a snake?

farther from the nest. But I know that if you keep fishing with your brothers and sisters, you'll all get it down in no time at all."

"Oh fine, I guess it can't hurt," Annie said with a groan. But this time, the fish didn't move quite as fast, and when Annie poked her head out of the water again, she had a fish on her beak! "Good job, Annie!! Now flip it in the air to get it off your beak so you can swallow it," her proud mother reminded her.

Annie had never tasted a fish that was so good! "And I did it all by myself!"

"Now Annie," her mom cautioned, "sometimes it isn't going to be that easy to catch fish. You still have quite a bit of practicing to do before you are ready to move off



Rocky the
Racoon



Otto the
Otter



Ally the Alligator



Bertha the
Butterfly

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